PRELIMINARY AMENDMENT
Page 4

Atty. Docket No. PNL21464
U.S. National Stage Application of PCT/EP 03/12316

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method for estimation of combustion chamber pressure of an internal combustion engine, <u>comprising:</u>

~~characterized by~~

modeling of the internal combustion engine with a plurality of model parameters in a model [[(1, 2)]] by providing a combustion chamber pressure value and a model alternating torque [[(MW)]],

acquiring an actual alternating torque [[(IW)]] value,

adjusting [[(4, 5)]] the model alternating torque [[(MW)]] to the actual alternating torque [[(IW)]] by modifying the model parameters,

and determining an estimated value of the combustion chamber pressure in relation to the model [[(1, 2)]] on the basis of the modified model parameters.

2. (Currently Amended) The method as claimed in claim 1, wherein the <u>modeling</u> ~~model (1,2)~~ comprises <u>utilizing</u> a cycle model [[(1)]] for description of combustion in a combustion chamber, [[the]] <u>wherein</u> initial values <u>for the cycle model are</u> ~~in particular being~~ taken from an engine control unit.

3. (Currently Amended) The method as claimed in claim 1 [[or 2]], wherein the <u>modeling</u> ~~model (1,2)~~ comprises <u>utilizing</u> a mechanical model [[(2)]] for description of a spring-mass system of the internal combustion engine.

4. (Currently Amended) The method as claimed in ~~one of claims~~ <u>claim</u> 1 [[to 3]], wherein band limitation [[(3)]] is effected in order to acquire the model alternating torque [[(MW)]].

5. (Currently Amended) The method as claimed in ~~one of claims~~ <u>claim</u> 1 [[to 4]], wherein the <u>adjusting</u> ~~adjustment (4, 5)~~ is effected by error calculation [[(4)]] and reduction of the error [[(5)]] below an assigned limit value in a control circuit by means of the model parameters.

PRELIMINARY AMENDMENT
Page 5

Atty. Docket No. PNL21464
U.S. National Stage Application of PCT/EP 03/12316

6.   (Currently Amended) The method as claimed in ~~claims~~ claim 1 [[to 5]], wherein the actual alternating torque [[(IW)]] is an estimated value of a moment estimation model.

7.   (Currently Amended) A device for estimating combustion chamber pressure of an internal combustion engine, <u>comprising:</u>

~~characterized by~~

a computer system for modeling of the internal combustion engine having a plurality of model parameters in a model [[(1, 2)]] by providing a combustion chamber pressure value and a model alternating torque [[(MW)]],

an acquisition system connected to the computer system for acquiring an actual alternating torque [[(IW)]], the model torque [[(MW)]] being subjected to adjustment to the actual alternating torque [[(IW)]] by the computer unit through modification of the model parameters and it being possible to determine an estimated value of the combustion chamber pressure in relation to the model [[(1, 2)]] on the basis of the modified model parameters.

8.   (Currently Amended) The device as claimed in claim 7, wherein the model [[(1, 2)]] stored in the computer system comprises a cycle model [[(1)]] for description of combustion in a combustion chamber, it being possible to acquire initial values in particular from an engine control unit.

9.   (Currently Amended) The device as claimed in claim 7 [[or 8]], wherein the model [[(1, 2)]] filed in the computer system comprises a mechanical model [[(2)]] for description of a spring-mass system of the internal combustion engine.

10.   (Currently Amended) The device as claimed in ~~one of claims~~ claim 7 [[to 9]], ~~such device~~ <u>further</u> comprising a filter mechanism for band limitation [[(3)]] for the purpose of acquisition of the model alternating torque [[(MW)]] from a moment pattern.

11.   (Currently Amended) The device as claimed in ~~one of claims~~ claim 7 [[to 10]], wherein adjustment of the model alternating torque [[(MW)]] by the actual alternating torque [[(IW)]]

PRELIMINARY AMENDMENT
Page 6

Atty. Docket No. PNL21464
U.S. National Stage Application of PCT/EP 03/12316

in the computer system may be effected by error calculation and reduction of an error below an assigned limit value in a control circuit by means of the model parameters.

12. (Currently Amended) The device as claimed in ~~one of claims~~ claim 7 [[to 11]], wherein the acquisition mechanism for acquisition of the actual alternating torque [[(IW)]] has an additional computer system for estimating the actual alternating torque [[(IW)]] from a measured value in relation to an angular velocity of the internal combustion engine.